COMPLETE SELF-PROTECTION SYSTEMS

for all types of aircraft

TERMA

ALLIES IN INNOVATION

Complete mission protection

For over 30 years, Terma has been bringing pilots and their aircraft home safe. Today, our advanced Aircraft Self-Protection Systems are trusted by defense forces and organizations worldwide as the most effective and cost-efficient solutions on the market.

- **Aircraft Self-Protection Systems** – field-proven, integrated solutions for managing subsystems through a unique user interface
- **3D-Audio and Active Noise Reduction** – the world's only operational 3D-Audio system for enhancing situational awareness and reducing fatigue
- **Applied Aerostructures** – integrated podded, pylon, and scab-on solutions that lower costs and bring individual aircraft quickly to mission-ready status

Today over

2,000

fielded aircraft, including fixed wing and helicopters, are protected by Terma systems worldwide. **To date, not one of them has ever been recorded as shot down.**

Aircraft Self-Protection Systems

Terma is a leading integrator of Self-Protection Systems for all types of aircraft. Our advanced solutions give complete, intuitive control over any combination of subsystems, reducing pilot workloads and delivering field-proven reliability and performance.

We offer a service tailored to your needs and focused on delivering against strict budgets and timeframes. Unlike many other suppliers, there are no ITAR/EAR restrictions on what equipment or systems we can export – or what you can do with them – giving you an exceptional degree of operational flexibility.

ALQ-213 CONTROLLERS

Our latest generation of proven ALQ-213 controllers can be used with any aircraft or combination of subsystems and come with cutting-edge mission optimization tools for planning, recording, training, and post-flight analysis.

- Supports international aircraft platforms
- Provides fleet-wide software commonality
- No export restrictions (non-ITAR/non-EAR product)
- Provides firewall between aircraft avionic interface and sensor suite
- Low system integration and life cycle costs
- Supports both U.S. Foreign Military Sales (FMS) and Direct Commercial Sales (DCS)

ADVANCED COUNTERMEASURES DISPENSER SYSTEM (ACMDS)

Our trusted ACMDS has been re-engineered for extreme quality, advanced operational capabilities, and reliability while maintaining our highly competitive prices.

- Form-fit compatible with legacy Terma and AN/ALE-47 dispenser systems (no Group-A changes)
- Fully in-country organic reprogrammable
- Compatible with the latest intelligent decoys
- Class-leading operational capabilities

'ON-THE-FLY' THREAT SIMULATIONS

Our Self-Protection Systems include a unique Embedded Training functionality to train pilot skills during daily missions. Using built-in software, users can simulate threat scenarios at any time during flight, saving test range costs and creating a more realistic training program.

SHORTER DEVELOPMENT TIMES

Terma has a proven record of developing, qualifying, and delivering tailored Self-Protection Systems within only 3-6 months. Typically, such a program could take 2-3 years.

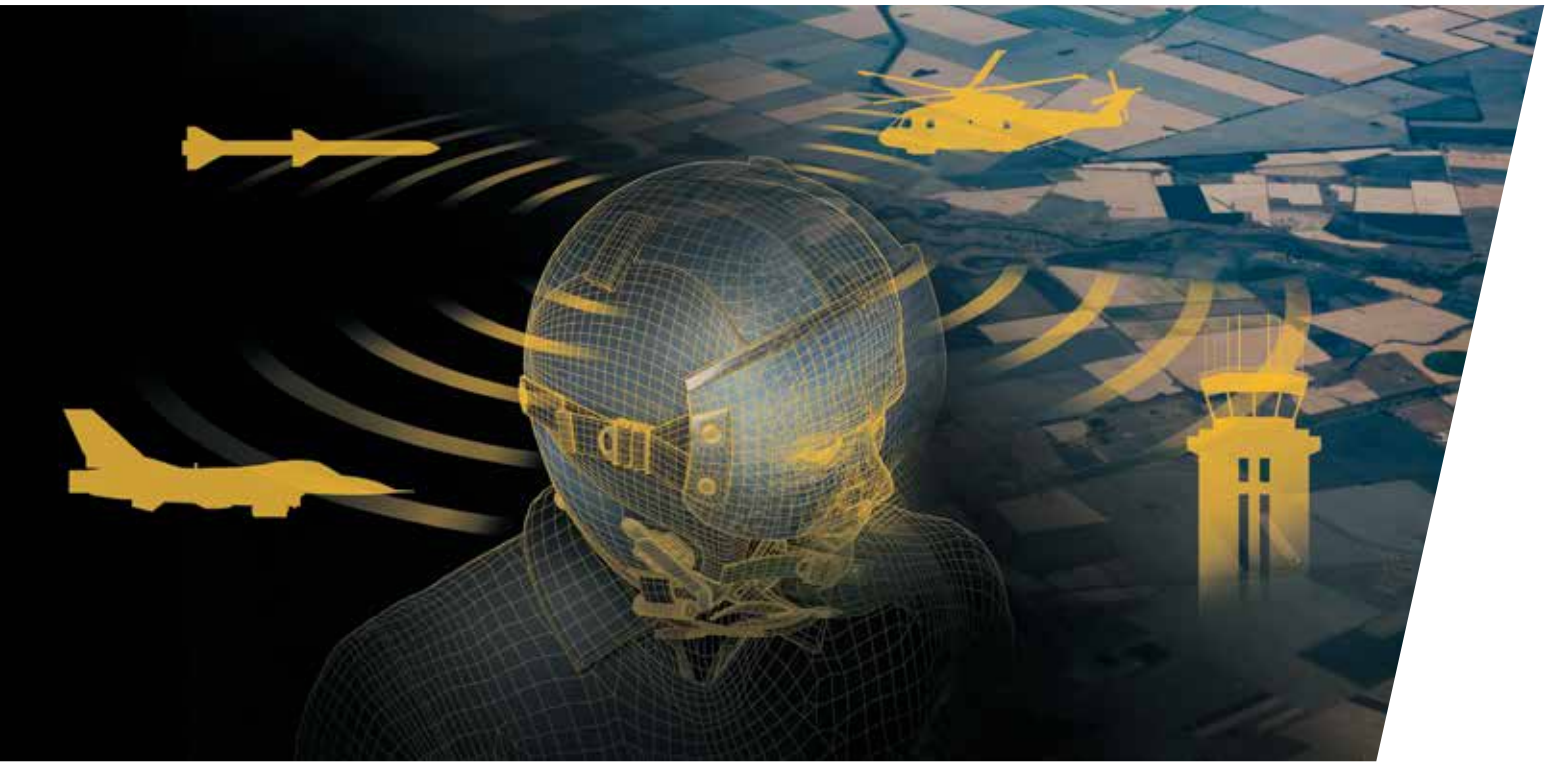
3-6
MONTHS

ACMDS
Advanced Countermeasures Dispensing System

ATD
Advanced Threat Display

AN/ALQ-213 FAMILY
Self-Protection Controller family (AN/ALQ-213)

PIBU
Programmable Interference Blanker Unit



3D-Audio and Active Noise Reduction

Terma is the only supplier of operational 3D-Audio and Active Noise Reduction (ANR) technology that reduces stress and enhances operational effectiveness through dynamic spatial audio cues that highlight the precise direction of attack.

As a standalone product or part of an integrated Self-Protection Systems suite, the system is compatible with any type of aircraft and includes a range of tools for improving sound quality and intelligibility:

- **Digital Intercom** – upgrades sound quality for analog systems on legacy aircraft
- **Active Noise Reduction** – removes stressful ambient cockpit noise such as from environmental control systems
- **Electrical Noise Reduction** – eliminates distracting interference from the aircraft's electrical circuits
- **Directional radio separation** – reduces workload by helping the pilot to distinguish between radio sources
- **360° dynamic threat cues** – enables the pilot to react faster and pinpoint to incoming threats

Fielded for over 5 years by the Danish Air Force, Terma's 3D-Audio/ANR technology is proven to improve crew and aircraft safety through:

- Improved reaction times in threat situations
- Enhanced situational awareness
- Reduced pilot workload
- Less stress and fatigue
- Better speech intelligibility

> **" When on a mission, the workload is tremendous. The stakes are high, and the pilot needs to stay 100% alert; mitigating all unnecessary disturbances is key to a successful flight performance.**
>
> **Over Libya, we had a small force but with a huge effect. Besides a pool of very skilled F-16 pilots, the achievement was partly due to the working environment of our F-16s and the 3D-Audio and Active Noise Reduction systems installed in these aircraft. "**
>
> - Major H.P. Bagger, F-16 pilot, RDAF

3D-AUDIO CONTROL PANEL
Easy-to-use audio control panel and intuitive intercom display

ENHANCED INTERPHONE AMPLIFIER
Form-fit F-16 digital intercom solution is simple to install on all aircraft

HEADSET ASSEMBLY
Robust, form-fit HGU-55/P and JHMCS noise reduction headset

AIR CREW HELMET
Terma headset assembly can be adapted to any air crew helmet

Applied Aerostructures

Terma is the only systems integrator that also specializes in Applied Aerostructures, enabling the rotation of subsystems across the fleet rather than fixed installations on each aircraft. This 'mix and match' approach significantly lowers hardware and system costs, and allows for a higher degree of operational flexibility.

Our pods, pylons, scab-ons, and fuselage installations can be customized to house your existing equipment or, better still, pre-integrated with Terma subsystems to avoid problems caused by the sharing of responsibilities that often arise when using separate suppliers.

- Optimized solutions for the structural integration of subsystems
- Shorter lead times due to standard modular design
- Cost-effective way to introduce new subsystems, sensors, and countermeasures
- Fast and simple method of making specific aircraft mission-ready
- Qualified and certified for maximum performance and minimum risk
- Operationally proven in hotspots around the world

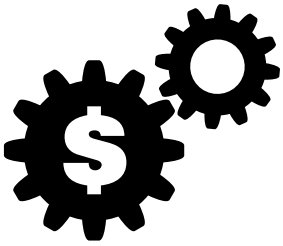
UNIVERSAL DIRCM POD

Our standard pod design is able to accommodate a large variety of different sensor and countermeasure systems, including the latest DIRCM technologies.

- Modular design allows for a high level of commonality across variants
- Compatible with helicopters and transport aircraft

MISSION ADAPTABILITY AND ROLE FIT

By fitting individual subsystems to individual aircraft, as and when needed, they can be quickly and cost-effectively adapted for specific missions and applications.



MINIMIZE COSTS AND RISKS

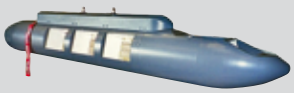
We are the only supplier to offer 'one stop shop' integration of Aerostructures and Self-Protection Systems. This unique approach helps you to reduce development times, lower costs, and improve system reliability.

1 STOP SHOP

FUSELAGE INSTALLATION
Helicopter fuselage installation with chaff/flare dispensers

PYLONS
F-16 modified pylon with chaff/flare dispensers and missile warning system

PODS
Transport aircraft pod with chaff/flare dispensers and missile warning system



SCAB-ON
Helicopter scab-on with chaff/flare dispensers

PODS
Helicopter pod with chaff/flare dispensers and missile warning system

SCAB-ON
Transport aircraft scab-on with chaff/flare dispensers

Fighter Platforms

FIGHTERS

F-16

Archangel

A-10

Tornado

F-35

F-16 Blk 60

F-16

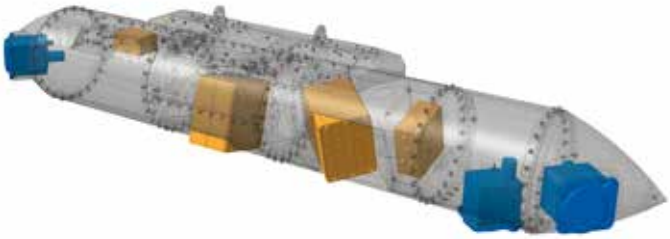
F-16 Pylon Integrated Dispensing System (PIDS+)
Each pylon contains three UV missile warning sensors and two chaff/flare magazines. Full weapons carrying capability is retained.

Tornado

Modular Countermeasures Pod, MCP for Tornado aircraft
The pod contains six UV missile warning sensors and eight chaff/flare magazines.

Archangel

Modular Aircraft Survivability Equipment
The system consists of a Terma ALQ-213 Electronics Warfare Management System (EWMS), the Missile Warning System (MWS), and the Countermeasures Dispensing System (CMDS).



Helicopter Platforms

HELICOPTERS

Fennec

Cougar

Chinook D/F

EH-101

Apache

NH-90

CH-47D/F Chinook

Chinook Aircraft Survivability Equipment, CHASE
Two pods, one on each side of the fuselage, are each equipped with three UV missile warning sensors and one DIRCM unit. This provides 360 deg spherical coverage against incoming IR missiles. Mounting of sensors and DIRCM in the same pod eliminates inaccuracies caused by fuselage torque during maneuvering.

AH-64D Apache

Apache Modular Aircraft Survivability Equipment, AMASE
Each helicopter has two pods mounted on the stub wings. Each pod holds two chaff/flare magazines and three UV-based missile warning sensors providing 360 deg spherical coverage against incoming threats. Each AMASE pod can host a DIRCM unit, RWR, KWR, and HFI.

AS 550 Fennec

Fennec Aircraft Survivability Equipment
Fully integrated, certified, and ready for deployment within six weeks.

Transporter Platforms

C-160

C-130J

C-130H

Falcon 2000

Fokker 60

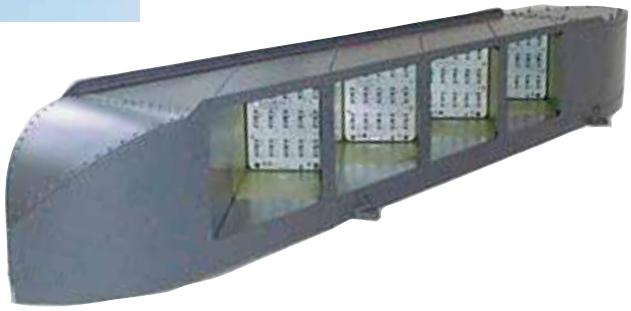
P-8A

C-160 Transall

On the C-160 Transall, sensors are installed in the fuselage. The chaff/flare capacity has been increased to a total of 36 magazines. Two underwing **Modular Countermeasures Pods, MCP-10** each contains ten magazines and two 'scab-on' mounted units each containing four magazines. The original eight fuselage mounted magazines are retained.

Modular Countermeasures Pod, MCP-10

'Scab-on' mounted dispense unit for the C-160. Each aircraft carries two units.



Fokker 60

Modular Countermeasures Pod, MCP for Fokker 60

EW Integration Reference List

COUNTERMEASURES DISPENSING SYSTEM (CMDS)
- ACMDS
- ALE-47

RADAR WARNING RECEIVER (RWR)
- ALR-56M
- ALR-68
- ALR-69 DK(V)2 / C4 / LSIP
- ALR-69 A
- APR-39B(V)2
- SPS-1000(V)5
- CATS-100
- CARAPACE/KRP

ELECTRONIC COUNTERMEASURES JAMMER (JMR)
- ALQ-119/-184
- ALQ-131
- ALQ-162(V)1/(V)6
- ALQ-176
- ALQ-184(V)9
- EL/L-8222
- EL/L-8212

TOWED DECOY SYSTEM (TDS)
- ALE-50 (integrated via ALQ-184(V)9)
- ALE-50(V)2

MISSILE WARNING SYSTEM (MWS) - ACTIVE
- EL/M-2160

MISSILE WARNING SYSTEM (MWS) - PASSIVE
- AAR-44
- AAR-47
- AAR-54
- AAR-57
- AAR-60 MILDS
- AAR-60(V)2 MILDS-F
- PAWS-II

LASER WARNING RECEIVER (LWR)
- AVR-2B

INFRA-RED COUNTERMEASURES (IRCM)
- COMET
- ALQ-144A

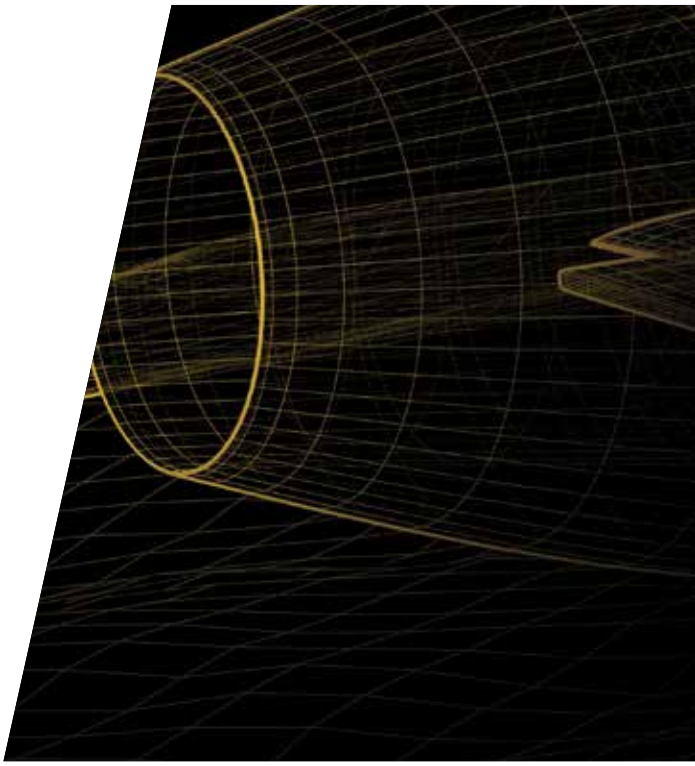
DIRECTED INFRA-RED COUNTERMEASURES (DIRCM)
- AAQ-24

Operating in the aerospace, defense, and security sector, Terma supports customers and partners all over the world. With more than 1,100 committed employees globally, we develop and manufacture mission-critical products and solutions that meet exacting customer requirements.

At Terma, we believe in the premise that creating customer value is not just about strong engineering and manufacturing skills. It is also about being able to apply these skills in the context of our customers' specific needs. Only through close collaboration and dialog can we deliver a level of partnership and integration unmatched in the industry.

Our business activities, products, and systems include: command and control systems; radar systems; self-protection systems for ships and aircraft; space technology; and advanced aerostructures for the aircraft industry.

Headquartered in Aarhus, Denmark, Terma has subsidiaries and operations in The Netherlands, Germany, India, UAE, UK, Singapore as well as a wholly-owned U.S. subsidiary, Terma North America Inc. Terma North America Inc. is headquartered in Arlington, in the Washington D.C. area, with other offices in Georgia, Texas, Alabama, and Virginia.



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